PENNSYLVANIA STATE COLLEGE BUREAU OF BUSINESS RESEARCH

BULLETIN NO. 23

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The Pennsylvania State College

Bureau of Business Research, Bulletin No. 23

TRENDS IN FOOD PRODUCTS MANUFACTURING

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PREFACE

The present bulletin is the third in a series of studies of trends in important industries in the United States, with particular reference to the trends in the State of Pennsylvania. Similar studies of the furniture and electrical manufacturing industries have already been issued.

The food products industry is the largest in the United States in value of products and had 28% of all manufacturing plants of the country in 1939. Pennsylvania ranks fourth among the states in this industry. In 1939 with 3600 establishments and 61,500 wage earners, it produced nearly 6 per cent of all manufactured food products in the country.

Although this industry by reason of the variety of products and the diversity of raw materials, is likely to be quite widely diffused in small establishments, its greatest points of concentration are to be found in densely populated states such as Illinois, New York, California, and Pennsylvania. Because of its fundamental importance and its generally stable character it constitutes an admirable counterweight, especially where an area such as Pennsylvania has been given over to extensive development of the heavy industries. The trends in the food manufacturing industry therefore deserve special attention for any light they may throw on the possibilities of its greater expansion in the State of Pennsylvania

State College, Pennsylvania
June 1945

C. W. Hasek, Director
Bureau of Business Research

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INTRODUCTION

This bulletin is a study of industrial trends in the food manufacturing industry for the twenty-year period 1919 to 1939. All source material was taken from the Census of Manufactures for that period. There has been no census taken since 1939, hence no later data were available for this report.

The study examines the trends in 41 leading food manufacturing industries. Because of the great amount of statistical material used in this bulletin it was necessary to limit the figures for these industries to 1919, 1925, 1929, 1935, and 1939. For the entire food industry all census years were used.

The bulletin also examines the trends in the 8 leading food manufacturing states, all census years from 1919 to 1939 being examined. Because census data by states are incomplete for many food industries, it was necessary to use only 10 food industries in examining the state trends. These 10 important industries account for two-third's of all food products.

A separate section is devoted to the food manufacturing industries in Pennsylvania, showing the relative importance and trends of industries within the state.

The causes of industrial trends in the food industries are complex and often obscure. It wasimpossible within the narrow physical limits of this study to make an exhaustive analysis of the causes of trends in various industries or in leading states. The trends have been presented. The qualitative analysis is left to the reader.

The best known indicator of the importance of an industry is the value of its products. Hence, the greatest emphasis in the bulletin has been upon trends in the value of products. Less emphasis has been placed upon wages paid, number of wage earners and number of establishments.

The food industry, the largest manufacturing group in the country, covers establishments engaged primarily in the manufacture of foods and beverages for human consumption, and certain related products such as artificial ice, chewing gum and prepared feeds for animals and fowls.

The authors of the bulletin have had to make certain reclassifications of data in order to have comparable figures with back years. The Bureau of Census has constantly reclassified and elaborated its census data in order to present greater detail for individual industries. This sometimes has disadvantages when a study of comparable data over a long period is made. For this reason reclassification has been made necessary for this study. In each case, however, the component industries in each industrial group are indicated.

GENERAL SUMMARY

Number of Establishments

In 1939 there were 51,448 food manufacturing establishments in the United States or 28 per cent of all manufacturing plants in the country. There is no clear indicatien of a trend in the number of establishments from 1921 to 1939 although at no time in that period was the number as high as the figure of 69,423 reached in 1919.

Number of Wage Earners

The number of wage earners in 1939 was 824,000. In the previous 20 years the number has shown wide fluctuations from as high as 741,000 in 1929 to as low as 638,000 in 1933. During the war a rapid expansion has taken place and by 1944 it was estimated that 1,065,000 wage earners were employed or 25 per cent above those reported in 1939. The food industry is the third largest employer of labor, being out-ranked in both 1937 and 1939 by the steel and textile industries.

Wages Paid

The total volume of wages paid in the industry has shown a steady upward trend from 1919 to 1944, interrupted only temporarily by business depressions. Wages paid in 1939 were $914,000,000 or higher than the great year of 1929. By 1944 they had risen to $1,821,000,000 or almost double that reported in 1939. The food industry has the second largest payroll in the country. The steel industry in 1939 reported payrolls 43 per cent in excess of the food industry. By 1944 the excess was 126 per cent. Annual wages in the industry ranged from as low as $933 per year in 1933 to as high as $1209 per year in 1929. During the war a further advance took place and by 1944 they averaged $1,710.

Wage Costs

Taking the entire food products industry as a whole, wage costs per dollar of finished products in 1939 averaged 8.6¢. Individual food industries ranged from as low as 2.7¢ for flavoring extracts to as high as 35.6¢ for wholesale custom slaughtering.

Value of Products

The food products industry is the largest manufacturing industry in the country. Its nearest competitor is the steel industry. In 1939 the industry turned out $10,618,-000,000 in value of products, which was 61 per cent in excess of the production of the steel industry. Even in the good steel year of 1937, the food industry out-producedits nearest competitor by 52 per cent.

During the period 1919 to 1939 the value of food products has varied from $6,636,-000,000 per year to as high as $12,748,000,000. During the Second World War a further expansion has taken place. Manufacturers' shipments of food products in 1944, for example, were 115 per cent above the 1939 level.

From 1919 to 1939 the food industry produced on the average 18.8 per cent of all manufactured products. Its share of all manufactured products was greater between 1929 to 1939 than it was from 1919 to 1929. Hence the industry gained in relative importance in the 10 years ending in 1939. This was due to the fact that the production of food products fell less in the depression than did manufactured products as a whole and, second, the alcoholic liquor industry was revived in 1933.

Manufacturing statistics for the food industry since 1919 are given in Table 1.

Plant Output and Industry Concentration

The degree of industrial concentration varies greatly in the food manufacturing industry. Nine important companies account for 27.1 per cent of all products. The greatest concentration is in the wholesale meat packing industry where four large companies report 56 per cent of the industry's output. In the canning and preserving industry four companies account for 23 per cent of the products. In the bread and baking industry four leading companies have 18 per cent of the output. On the other hand, many food industries are typically small-scale with only a few wage earners per establishment and yet these small producers continue to survive in the struggle of competition.

Table 1

MANUFACTURING STATISTICS OF FOOD AND KINDRED PRODUCTS INDUSTRIES

1919 To 1939

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All U. S. Mfg. Products
1919	69,423	733,664	$774,724	$12,748,348	20.5%
1921	52,113	626,618	746,266	8,267,130	18.9
1923	51,847	682,137	795,571	9,524,051	15.7
1925	48,113	664,760	793,681	10,418,536	16.6
1927	48,947	668,311	817,238	10,668,009	17.7
1929	55,325	740,937	895,713	11,658,705	17.1
1931	47,812	638,240	730,467	8,005,389	20.1
1933	40,325	668,927	624,212	6,636,012	21.7
1935	48,982	800,108	804,159	9,543,015	21.2
1937	48,763	890,503	981,409	11,294,890	18.5
1939	51,448	823,693	913,985	10,618,026	18.7

Source: Census of Manufactures

Trends in Individual Industries

There are 41 leading food and kindred products industries. These have shown diverse trends in relative and absolute importance since 1919. The following is a list of industries which, in the period since 1919, have shown gains in relative importance, measured as a ratio of value of products in the industry to value of all food products. The list is given in alphabetical order rather than in order of size or gains:

Bread and other bakery products
Cane sugar, except refining (since 1925)
Canning and preserving of fruits and vegetables
Chewing gum
Liquors, distilled
liquors, rectified and blended
Malt
Malt liquors
Poultry dressing and packing
Quick-frozen foods
Sausages, sausage casings and prepared meats
Wines

The exact trends of the above industries can be studied by refering to the reports on individual industries in this bulletin. It will be observed that four out of the twelve industries just listed are in the alcoholic drink category. Since the manufacture of alcoholic liquor was legalized in 1933 for the first time since the First World War it was to be expected that these industries would expand rapidly after 1933. Alcoholic liquors in 1939 totaled $664,083,000 excluding the malt industry or 6.3 per cent of all food and kindred products.

The following industries showed downward trends from 1919 to 1939 in relative importance as compared to the entire food and kindred products industry group. The industries are again listed in alphabetical order rather than in relative losses.

Baking powder, yeast and other leavening compounds
Candy and other confectionery products
Cane sugar refining
Chocolate and cocoa products
Corn sirup, corn sugar, corn oil and starch
Flour and other grain mill products
Ice, manufactured
Meat packing, wholesale
Oleomargarine
Rice cleaning and polishing
Vinegar and cider

The other 18 industries either showed no definite upward or downward trend in relative importance or else data were not complete for the twenty-year period. Of the very new food industries perhaps the quick-frozen foods industry shows the greatest promise. The dehydration of foods has also shown a marked expansion on account of the war.

Trends in Leading States

The eight leading food manufacturing states in 1939 were as follows:

Rank	State	Value of Products	Per Cent of U. S. Total
1.	Illinois	$1,221,580,000	11.5%
2.	New York	1,149,951,000	10.8
3.	California	897,962,000	8.5
4.	Pennsylvania	613,070,000	5.8
5.	Ohio	512,177,000	4.8
6.	Minnesota	473,559,000	4.5
7.	Iowa	460,830,000	4.3
8.	Wisconsin	448,069,000	4.2

These eight states in 1939 accounted for 54.4 per cent of all manufactured food products. They have 40.7 per cent of the population of the country. Illinois was the unquestioned leader in food manufacturing from 1919 to 1939 because of its dominance as a meat packing state. In New York the bread and baking industry is the chief industry. California is the greatest manufacturer of products in the canning and preserving industry and has shown the largest expansion in the food industry among the eight states since 1919.

Trends in Pennsylvania

Pennsylvania is the fourth largest food manufacturing state. In 1939 it produced nearly 6 per cent of all food products. There are nearly 3600 food manufacturing establishments, furnishing employment for 61,500 wage earners in 1939.

The five biggest food industries in the state in 1939 were as follows:

Rank	Industry	Value of Products
1.	Bread and other bakery products	$141,975,000
2.	Meat packing, wholesale	101,013,000
3.	Cane sugar refining	59,941,000
4.	Malt liquors	55,849,000
5.	Ice cream	39,530,000

The state is the largest manufacturer of ice cream in the country, the second largest manufacturer of bread and other bakery products, and malt liquor, third in sugar refining and considerably down the list in wholesale meat packing. Pennsylvania in various food and kindred products industries, produces all the way from 21.9 per cent of all rectified and blended liquors made in the country down to only 0.7 per cent of all creamery butter.

In eleven census periods from 1919 to 1939 the state produced 5.8 per cent on the average of all food products made in ten important food industries.

The five leading food and kindred product manufacturing counties in the state in 1939 were as follows:

County	Per Cent of State Total
Philadelphia	38.1%
Allegheny	19.8
Dauphin	7.2
Luzerne	3.1
Lancaster	2.8

TRENDS IN THE INDUSTRY AS A WHOLE

Number of Establishments

In 1939 there were 51,448 establishments in the country manufacturing food and kindred products. This was 28 per cent of all manufacturing establishments in that year.

It is difficult to determine exact trends in the number of establishments in the industry. In 1919 the number was 69,423, which has never been equalled since that date. From 1919 to 1921 a sharp contraction took place. The decline continued for a few years but by the time of the prosperous year of 1929 the number had increased to 55,325. Sharp declines again took place in the depression after which a gradual expansion took place. By 1939 the number was back to the best level in a decade but was still 7 per cent under 1929 and 26 per cent under 1919.

Changes in number of establishments are not too significant in that there are many small plants in the industry. Each year a large number of plants go out of business as others enter. The industry has an immense number of very small establishments, more so that any other large manufacturing group.

The following figures show the number of establishments by census years:

Year	No. of Establishments
1919	69,423
1921	52,113
1923	51,847
1925	48,113
1927	48,947
1929	55,325
1931	47,812
1933	40,325
1935	48,982
1937	48,763
1939	51,448

Number of Wage Earners

The number of wage earners in the industry has shown wide fluctuation since 1919. During the 1920's the number fluctuated from 627,000 to 741,000. The low point of the depression in 1931 showed employment down to 638,000, which was a little better than the 1921 low point. From 1935 to 1940 employment rose to above 800,000. By 1941 a further expansion took place, bringing the volume above 900,000. As we became involved in war tremendous demands were placed on the food manufacturing industry in the processing of record production of food for the civilian population, the armed forces and lend-lease. In 1944 a total of 1,065,000 wage earners were employed, which was 44 per cent above the best employment shown in the prosperous 1920's.

Employment shows a considerable cyclical swing in the industry although not as much as manufacturing as a whole because of the stability of demand for its products. Employment fell 14 per cent from 1929 to 1931. By 1937 it had expanded 40 per cent above the level of four years before. During 1944 it was 67 per cent above the depression low point.

During the war employment rose substantially. The gain from 1939 to 1944 was 25 per cent, which was better than the 19 per cent increase shown for all nondurable goods but much under the 128 per cent expansion for durable goods industries.

The following figures are the number of wage earners in the industry from 1919 to date:[1]

Year	No. of Wage Earners
1919	733,664
1921	626,618
1923	682,137

[1]Figures 1919 to 1939 are from Census of Manufactures; from 1940 to 1944 are estimates from U. S. Department of Labor.

Year	No. of Wage Earners
1925	664,760
1927	668,311
1929	740,937
1931	638,240
1933	668,927
1935	800,108
1937	890,503
1939	823,693
1940	864,000
1941	940,000
1942	1,025,000
1943	1,045,000
1944	1,065,000

The food industry is the third largest manufacturing industry in number of wage earners. In both 1937 and 1939 it was exceeded by the iron and steel, and textile industries in volume of employment.

Wages Paid

The total volume of wages paid in the industry has shown a steady upward trend from 1919 to 1944, interrupted only by a few years of the depression. Wages paid in 1929 were $896,000,000 or 16 per cent above those reported 10 years before. In 1939 they had climbed to $914,000,000 or 2 per cent above the banner year of 1929.

During the war payrolls rose rapidly as more workers were employed at better pay and longer hours. The 1944 total of $1,821,000,000 was almost exactly double that reported in 1939.

The food industry is the greatest manufacturing industry in the country. It does not, however, have the greatest factory payroll. That distinction is held by the iron and steel industry. In 1939 the steel industry payrolls for wage earners was $1,313,633,000 or 43 per cent above the food industry. During the war steel payrolls expanded more rapidly than did those in the food industry. Hence by 1944 it is estimated that steel payrolls were 126 per cent above those of the food industry. Wage costs in the steel industry are greater per dollar of product than are those of the food industry. That is the explanation why the food industry leads in value of products but not in wages paid. The textile industry is a close third among American industries in the volume of wages paid, being only slightly under the food industry.

The following figures show the trend in wages paid in the industry since 1919:[1]

Year	Wages Paid (000's)
1919	$774,724
1921	746,266
1923	795,571
1925	793,681
1927	817,238
1929	895,731
1931	730,467
1933	624,212
1935	804,159
1937	981,409
1939	913,985
1940	940,491
1941	1,103,180
1942	1,371,891
1943	1,636,947
1944	1,820,658

[1]Figures for 1919 to 1939 are from Census of Manufactures; from 1940 to 1944 are estimates based on indexes from the U. S. Department of Labor.

Wages Paid (cont)

Annual wages in the industry over a 20-year period 1919 to 1939 varied from as high as $1209 or $100 per month in 1929 to as low as $933 or $78 per month in 1933.

In 1939 annual wages paid per wage earner were $1110 as contrasted to about $1150 for all manufacturing industries. In other words, annual wages in the food products industries were about 3.5 per cent under those for all manufacturing. These figures include, of course, both full and part-time workers.

The following figures show the trend of annual wages in the entire food industry for certain years since 1919:

1919 -	$1,000
1925 -	1,194
1929 -	1,209
1933 -	933
1935 -	1,005
1939 -	1,100
1941 -	1,174
1942 -	1,338
1943 -	1,566
1944 -	1,710

The sharp increase in annual wages during the war is easily observed. By 1944 annual wages were $1,710 or $143 per month, which was nearly double the depression low.

Wage Costs

Taking the entire food products industry as a whole, wage costs in 1939 took 8.6¢ for every dollar of finished product. Individual food industries showed wage costs ranging from as low as 2.7¢ per dollar of product for flavoring extracts to 35.6¢ for wholesale custom slaughtering.

The following figures show the ratio of wages costs to value of products for all leading food industries in 1939:

Name of Industry	Wage Costs Per Dollar of Value of Products
Baking power, yeast and leavening compounds	11.5¢
Beet sugar	9.2
Biscuit, crackers and pretzels	14.2
Blended and prepared flour	3.3
Bread and other bakery products except biscuits	21.6
Candy and other confectionery products	13.8
Cane sugar except refining	7.7
Cane sugar refining	4.2
Canned and dried fruits and vegetables	11.1
Canned and cured fish	11.0
Cereal preparations	7.7
Cheese	4.8
Chewing gum	5.4
Chocolates and cocoa products	7.8
Condensed and evaporated milk	5.4
Cooking and other edible fats	2.9
Corn sirup, corn sugar, corn oil and starch	8.9
Creamery butter	3.7
Custom slaughtering, wholesale	35.6
Flavoring extracts	2.7
Flour and other grain mill products	4.4
Food preparations not elsewhere classified	6.5
Ice cream and ices	6.1
Ice, manufactured	13.6
Liquors, distilled	8.7
Liquors, rectified and blended	6.5
Macaroni, spagetti etc	11.7
Malt	4.4

Wage Costs (cont)

Malt liquors	11.8
Meat packing, wholesale	6.1
Nonalcoholic beverages	5.6
Oleomargarine, not made in meat packing establishments	3.8
Poultry dressing and packing	6.3
Prepared feeds	4.0
Quick frozen foods	16.4
Rice cleaning and polishing	3.6
Salad dressings	5.0
Sausages and sausage casings	6.7
Special dairy products	4.2
Vinegar and cider	11.7
Wines	6.2
Total - all industries	8.6

Value of Products

The food products industry is by far the greatest manufacturing industry in the nation. This is not surprising since food is the basic necessity of life. The nearest competitor is the iron and steel industry.

In 1939 the food industry turned out $10,618,026,000 in value of products which was 61 per cent above the output of the iron and steel industry. In 1937 the industry exceeded the iron and steel industry's value of products by 52 per cent. There is therefore no question of the leadership of the food products industry.

During the period 1919 to 1939 the industry's value of products varied from as low as $6,636,000,000 to as high as $12,748,000,000. During the Second World War of course these figures have been considerably exceeded, although exact figures are not yet available.

From 1919 to 1939 the industry produced from 15.7 to 20.5 per cent of manufactured products made in the country. The average for 11 census years was 18.8 per cent. This was very close to the 1937 and 1939 ratios. In other words, the industry as a whole accounts from a little less than 19 per cent of all manufactured products made in the country over a 20-year period.

From 1919 to mid-1929 the industry produced 17.8 per cent of all manufactured products. From mid-1929 to 1939 inclusive it produced 19.7 per cent of all products. Hence its share for the decade ending in 1939 was larger by almost 2 points than it was for the decade ending in 1929. This would appear to be due to two things, first, the production of food products fell less in the depression than did manufacturing as a whole, and second, the alcoholic liquor industry was legally revived after 1933.

The following figures are the value of products in the industry since 1919:

Year	Value of Products (000's)	Per Cent of All U. S. Mfg. Products
1919	$12,748,348	20.5%
1921	8,267,130	18.9
1923	9,524,051	15.7
1925	10,418,536	16.6
1927	10,668,009	17.7
1929	11,658,705	17.1
1931	8,005,389	20.1
1933	6,636,012	21.7
1935	9,543,015	21.2
1937	11,294,890	18.5
1939	10,618,026	18.7

There are no figures on value of products since 1939 since no census has been taken since that year. However, the Bureau of Foreign and Domestic Commerce publishes an index of manufacturers' shipments of food and kindred products. Although there is a lag of shipments behind production these index numbers do indicate the increasing

Value of Products (cont)

volume of manufactured products over a period of time.

The following are index numbers of manufacturers' shipments since 1939:

1939 - 100
1940 - 106
1941 - 134
1942 - 177
1943 - 194
1944 - 215

In other words manufacturers' shipments in 1944 were up 115 per cent from those reported in 1939, the last census year to date. If the value of products had risen in the same proportion it would have meant that products in 1944 would have reached the record total of $22,829,000,000 as contrasted to the previous peak of $12,748,000,000 in the peace-time period of 1919-1939.

Per Capita Production

Over the 20-year period 1919 to 1939 the food industries have turned out on the average $84 in products for each person in the United States each year. These annual averages have ranged from as high as $121 in 1919 to as low as $53 in 1933. Both prices and quantities produced, of course, determine these averages. It would seem that about $90 per year is the upper limit of production per capita during peace-time years in the absence of strong price inflation such as was present in 1919.

Per capita production since 1939 has, of course, increased because of the enormous demands for food at home and abroad. These conditions, however, are abnormal and cannot be expected to remain very long after the war.

The following figures show the value of food and kindred products manufactured per capita in the country since 1919:

Year	Value of Products Per Capita
1919	$121
1921	76
1923	85
1925	91
1927	90
1929	96
1931	65
1933	53
1935	75
1937	88
1939	81

Plant Output and Industry Concentration

There is an immense variation in size of plants in the industry, ranging from the huge wholesale meat packing plants in Chicago to tiny cheese factories employing several workers.

Some idea of changes in plant output can be obtained by showing the average plant output in the industry over a period of 20 years. The following figures show the value of products per establishment since 1919:

Year	Value of Products Per Establishment
1919	$183,600
1921	158,600
1923	183,700
1925	216,500
1927	218,000
1929	210,700
1931	167,400
1933	164,600
1935	194,800
1937	231,600
1939	206,400

Variations in the output per plant are, of course, a result of three variables, namely, number of plants, physical quantities manufactured, and prices. During a depression the output per plant always falls, while during years of good prices the output is high.

An examination of the above figures would seem to indicate that the small plant has been able to hold its own fairly well in competition with the very large plant over a twenty-year period.

The concentration of production varies greatly within the food industry. Some types of food products are manufactured in large scale plants which tends to favor the large corporation. Others are made in typically small plants which enables the small producer to survive in the struggle of competition.

Three of the most important food products industries show considerable concentration of manufacture. In the wholesale meat-packing industry the 4 leading companies account for 55.6 per cent of all products, while the 8 leading companies report 63.5 per cent.[1] In the canning and preserving industry the 4 leading companies account for 22.7 per cent and the 8 leading companies report 30.4 per cent. In the bread and other bakery products industries the 4 leading companies account for 18.0 per cent of all production and the 8 leading companies, 25.6 per cent. Other food industries show considerably less concentration.

Taking the entire food industry it has been found that the 9 leading companies account for 27.1 per cent of all production.[2]

[1] Structure of American Industry, appendix 7, Table I, pp. 240-242.
[2] TNEC Monograph No. 27, Table 3, page 587.

TRENDS IN INDIVIDUAL FOOD AND KINDRED PRODUCTS INDUSTRIES

Baking Powder, Yeast, and Other Leavening Compounds

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	88	3,331	$3,555	$46,230	0.4%
1925	49	2,931	4,063	53,347	0.5
1929	48	3,006	4,847	52,337	0.4
1935	46	2,666	4,278	32,341	0.3
1939	47	2,334	3,654	31,775	0.3

This rather small food industry accounted for only 0.3 per cent of all food industry products in 1939. Its share of the value of products of the food industry has shown a slight decline in relative importance since the 1920's. Sales in 1935 and 1939 were around $32,000,000 as against nearly $53,000,000 in 1925 and 1929. The number of establishments has shown great stability in recent years. Out of 41 leading food industries it ranked thirty-seventh in 1939.

The industry covers establishments engaged primarily in the manufacture of baking powder, yeast and other leavening compounds, but does not cover the production of yeast for their own use by breweries or other establishments.

Beet Sugar

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	85	11,781	$15,908	$149,156	1.2%
1925	89	8,872	12,088	132,339	1.3
1929	82	7,496	10,021	108,553	0.9
1935	77	9,366	9,338	95,160	1.0
1939	85	10,410	12,361	134,396	1.3

This fairly small industry turns out somewhat more than 1 per cent of all food products. It has largely retained its share of total food production from 1919 to 1939. The number of establishments has remained stable over a considerable period, although the number of wage earners has fluctuated widely. Sales in 1939 were above the 1929 figure but below those of 20 years before. Out of 41 leading food industries in 1939 it ranked nineteenth.

The industry includes establishments primarily engaged in the manufacture of beet sugar, molasses, etc. from sugar beets.

Biscuit, Crackers and Pretzels

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	176	34,341	$26,066	$204,021	1.6%
1925	194	32,377	31,946	244,527	2.3
1929	375	33,871	34,208	274,490	2.4
1935	348	29,241	25,888	182,608	1.9
1939	356	29,173	28,550	200,793	1.9

This industry in 1939 ranked fourteenth in importance in the food industry. Its value of products in that year were $200,793,000 or 1.9 per cent of all food products.

Over a period of 20 years the industry appeared to have its greatest relative importance from 1925 to 1929, when it accounted for about 2.4 per cent of all food products. The number of establishments has shown a marked gain since 1919, doubling in that period. At the same time however the number of wage earners has shown a small downward trend.

The industry includes establishments engaged primarily in the manufacture of biscuit, crackers, machine-made cookies, pretzels, etc. packed in containers so as to retain their palatability for an indefinite period.

Blended and Prepared Flour

This small industry ranked thirty-eighth out of 41 food industries in 1939 with value of products amounting to only $17,894,000. This was only 0.2 per cent of all food products in that year. Comparable figures for 1919, 1929 and 1935 are not available, hence no indication of trend can be found. The industry includes establishments primarily engaged in the preparation of prepared (self-rising) and blended flour from purchased flour. The establishments do not include those engaged in grinding flour from grain.

In 1939 there were 78 establishments in this industry, employing only 706 wage earners. Wages paid totaled $593,000.

The following figures are for the industry in 1939:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1939	78	706	$593	$17,894	0.2%

Bread and Other Bakery Products Except Biscuits

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	24,919	107,251	$132,171	$ 947,876	7.4%
1925	17,490	128,034	187,660	1,023,668	9.8
1929	20,410	166,970	240,354	1,251,621	10.7
1935	18,720	189,182	222,645	1,052,464	11.0
1939	18,043	201,533	262,002	1,211,024	11.4

This is the second largest food industry in the country. In 1939 it reported production valued at $1,211,024,000 or 11.4% of all food products. Its share of the food industry's output has steadily increased in importance over a 20-year period, rising from 7.4% to 11.4% of the industry total. During the same period both the number of wage earners and wages paid have doubled. At the same time a decline of one-fourth in the number of establishments was reported, indicating a trend towards large scale production.

The industry includes establishments primarily engaged in the manufacture of bread, cakes, hand-made cookies, doughnuts, pies, pastries, etc. The products are "perishable" as contrasted to "dry" products included in the biscuit, cracker and pretzel industry.

Candy and Other Confectionery Products

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	3,149	76,493	$54,461	$447,726	3.5%
1925	1,931	63,600	55,235	379,081	3.6
1929	2,021	63,501	56,443	393,270	3.4
1935	1,314	52,109	39,252	259,889	2.7
1939	1,252	49,740	41,085	297,762	2.8

This industry in 1939 ranked tenth out of 41 leading food industries. Its production in that year was $297,762,000 or 2.8 per cent of all food production. Over a 20-year period its volume of sales has shown a downward trend both in value of products and in its share of total food production. Its all-time peak during the 20-year period 1919 to 1939 was in 1919. The number of wage earners and number of establishments has shown a marked downward trend since 1919.

The industry includes establishments primarily engaged in the manufacture of candy and confections, except solid chocolate bars and chewing gum. Salted nuts, stuffed dates, popcorn balls, and related products are included in the industry.

Cane Sugar, Except Refineries

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	202	6,101	$4,009	$57,741	0.5%
1925	94	2,066	1,411	13,435	0.1
1929	70	2,319	1,642	18,326	0.2
1935	74	2,944	1,530	26,281	0.3
1939	78	4,217	2,573	33,527	0.3

This industry in 1939 ranked thirty-fifth in importance out of 41 food industries. Its value of products in that year was $33,527,000 or 0.3 per cent of all food products. The industry showed a slight upward trend in importance from 1925 to 1939 but in neither 1925, 1929, 1935 or 1939 was it as important as it was in 1919.

The number of establishments was 202 in 1919, the number falling to the 70's from 1929 to date. The number of wage earners has been increasing since 1925 but as late as 1939 they reached only about two-third's of the 1919 total.

The industry includes those establishments engaged primarily in the manufacture of raw sugar, sirup, or finished cane sugar from sugar cane. Establishments engaged in the refining of sugar from purchased sirup or raw sugar are classified in the cane-sugar refining industry.

Cane Sugar Refining

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	20	18,202	$22,710	$730,987	5.7%
1925	21	14,502	18,955	606,633	5.8
1929	21	13,912	17,850	507,389	4.4
1935	18	13,832	13,914	377,214	4.0
1939	27	14,133	16,197	389,870	3.7

This is a large food industry, ranking eighth in 1939 in value of products. Its value of products in that year was $389,870,000 or 3.7 per cent of all food products. The industry has shown a steady downward trend in relative importance since 1919-1925 when it accounted for about 5.7 per cent of all food products. Sugar prices of course were quite high after the First World War.

The number of establishments in the industry is very small, since this is a large scale industry. For a considerable period the number of refineries was around 20 for the entire country, the number increasing to 27 in 1939. The number of wage earners has shown great stability at about 14,000 for a number of years. The average refinery produced $14,400,000 in products in 1939.

The industry includes establishments primarily engaged in the refining of purchased raw sugar and sirup.

Canned and Cured Fish

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	475	12,437	$9,505	$80,260	0.6
1925	319	10,530	7,234	61,060	0.6
1929	348	13,612	8,799	80,849	0.7
1935	274	13,335	6,310	60,588	0.6
1939	328	17,628	8,898	81,071	0.8

This is also a rather small industry which ranked twenty-fifth in value of products in 1939. The value of products in that year was $81,071,000 or 0.8 per cent of all food products. The industry has held its own since 1919 in relative importance. There has been a rather marked stability in the number of establishments from 1925 to 1939 at a little over 300. This number, however, was under the peak of 475 in 1919. The number of wage earners has shown an upward trend from 1925 on.

The industry includes establishments engaged primarily in the cooking and canning of fish and other sea foods, also the smoking, salting, drying and otherwise curing of fish for the wholesale trade. The shucking and packing of fresh oysters is not considered to be a manufacturing industry. The industry is now divided into two divisions, namely, canned fish and cured fish, but for the purposes of this report both classifications were combined in order to show trends back to 1919.

Canning and Preserving of Fruits and Vegetables

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	3,805	77,486	$56,939	$548,028	4.3%
1925	2,403	85,866	67,427	515,316	4.9
1929	2,997	98,866	74,979	750,342	6.4
1935	2,744	116,298	70,612	649,644	6.8
1939	2,555	103,642	75,754	698,006	6.6

This is the third most important food industry, being out-ranked only by wholesale meat packing and bread and other bakery products. The industry in 1939 produced $698,006,000 in value of products or 6.6 per cent of all food products. In order to show comparable data since 1919 it was necessary to combine the canning and preserving industries.

This industry has shown a remarkable increase in relative importance in the 20-year period, 1919-1939, rising in importance from 4.3 to 6.6 per cent of total food products. The industry showed a gain of about 50 per cent in relative importance over the 20 years.

A number of factors apparently account for the increase in importance of the industry since 1919. Among them are:

- Decline in home canning
- Increasing urbanization of population
- Improvement in quality of products
- Reduced costs of production due to labor saving machinery
- Better transportation
- Increased variety of products

The depression also favored the production of canned fruits and vegetables at the expense of the more highly priced fresh varieties.

As a result of these and other factors there has been a rather marked gain in the per capita consumption of canned goods, as shown by the following figures:

Crop Year	Per Capita Consumption Canned Goods		
	Vegetables	Fruit	Total
1919-1920	14.0 lbs.	11.0 lbs.	25.0 lbs.
1925-1926	21.5	11.6	33.1
1929-1930	21.2	12.3	23.5
1935-1936	23.2	13.8	37.0
1939-1940	23.4	17.9	41.3
1940-1941	25.4	19.2	44.6

Source: Standard and Poor Corporation Industry Survey: Food Products

As just indicated the per capita consumption from 1919 to 1940 expanded from 25.0 pounds to 44.6 pounds, a gain of 19.6 pounds or 78 per cent. It would seem very difficult for the industry to show any such comparable gain in the next 20 years.

The number of establishments in 1919 was in excess of 3800. In the following years the number of plants declined to 2400 in 1925, varying from that figure up to 3,000 in later years. The latest census year, 1939, gives the total as being 2555. The number of wage earners has shown an upward trend since 1919, the latest report showing a total of nearly 104,000.

The industry includes those establishments engaged primarily in the drying and canning of fruits and vegetables, including soups other than chicken soup, also preserves, jams, jellies, fruit butters, as well as pickled fruits and vegetables, relishes, vegetable sauces, and vegetable seasonings.

Cereal Preparations

This industry reported value of products in 1939 of $128,383,000 or 1.2 per cent of all food products. The industry ranked twenty-first in importance in that year. Unfortunately no comparable data for 1919, 1925, 1929 and 1935 are available. The industry in 1939 had 70 establishments, employing 7,458 wage earners. Payrolls were $9,857,000.

The industry includes establishments engaged primarily in the manufacture of cereal preparations, such as cereal-breakfast foods, coffee substitutes, hominy, prepared and self-rising flours, etc. made wholly or chiefly from grain milled by the establishment. Cracked grain is not considered to be a cereal preparation.

The following figures are for the industry in 1937 and 1939:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1937	71	7,725	$10,419	$150,861	1.3%
1939	70	7,458	9,857	128,383	1.2

Cheese

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	3,530	3,997	$4,809	$143,456	1.1%
1925	2,935	3,398	4,320	118,678	1.1
1929	2,758	3,401	4,588	110,645	0.9
1935	2,573	4,344	3,936	98,950	1.0
1939	2,682	5,002	5,156	108,207	1.0

This industry in 1939 ranked twenty-third in relative importance out of 41 food industries. Its value of products in that year was $108,207,000 or one per cent of

all food products. The industry has maintained its share of the total production for the last twenty years, averaging about one per cent of total products for the period.

There has been a slow decline in the number of establishments in recent years, the number falling from about 3500 to about 2700. On the other hand the number of wage earners has shown a steady upward trend from 1925 on, totaling 5,000 in 1939. This is a very small scale industry, the average establishment having only two wage earners in 1939.

The industry includes establishments engaged primarily in the manufacture of natural cheese, which may on the same premises produce processed cheese. The manufacture of processed cheese from purchased natural cheese is included under the special products industry.

Chewing Gum

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	62	3,190	$2,680	$51,240	0.4%
1925	41	2,180	2,538	47,838	0.5
1929	37	2,265	2,733	60,160	0.5
1935	26	2,315	2,417	47,766	0.5
1939	27	2,627	3,286	60,783	0.6

This industry in 1939 ranked twenty-sixth in relative importance out of 41 food industries. Its value of products was $60,783,000 in that year of 0.6 per cent of all food and kindred products. The industry has shown a slight upward trend since 1919.

The industry is highly centralized in a few establishments. The number has declined from 62 at the end of the First World War to only 27 at the latest census date. The number of employees has shown a slight upward trend from 1925 to 1939.

The industry includes establishments engaged primarily in the manufacture of chewing gum from crude gum, chicle, paraffin or similar materials.

Chocolate and Cocoa Products

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	48	9,083	$9,270	$139,258	1.1%
1925	60	7,128	7,992	106,642	1.0
1929	59	6,249	7,778	119,541	1.0
1935	44	8,291	7,996	93,047	1.0
1939	39	6,464	7,711	99,018	0.9

This industry in 1939 ranked twenty-fourth in importance. The value of products in that year totaled $99,018,000 or 0.9 per cent of all food products. The industry has barely held its own in relative importance over a 20-year period, although it has averaged about one per cent of all food products in that interval.

The industry has shown a decline in number of establishments over a period of time, only 39 establishments being reported in the latest census year. No obvious trend is indicated in the number of wage earners employed. The volume of wages paid since 1925 has shown a marked stability at about $7,800,000 per year.

This industry includes all establishments engaged primarily in the manufacture of chocolate from cacao beans, and the further manufacture of cocoa, cocoa butter, and solid chocolate bars. Chocolate candies (fancy package, bulk, count) are classified in the candy and other confectionery products industry.

Condensed and Evaporated Milk

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	401	13,675	$14,278	$339,507	2.7%
1925	402	7,118	8,391	171,247	1.6
1929	535	7,065	8,796	209,110	1.8
1935	467	8,458	8,319	171,489	1.8
1939	562	9,705	11,234	209,756	2.0

This industry in 1939 ranked thirteenth out of 41 leading industries. Its value of products totaled $209,756,000 or 2 per cent of all food products. From 1925 to 1939 the industry showed an upward trend in relative importance, although in neither 1925, 1929, 1935 no 1939 did it show a ratio of 2.7 per cent, the ratio reported in 1919.

The trend in number of establishments on the whole has been upward since 1919. The 1939 total was 562. Although the number of wage earners since 1919 has never exceeded the total of that year, there has been an upward trend in the industry in recent years.

The industry includes establishments engaged primarily in the manufacture of condensed and evaporated milk, and related products such as dried and powdered milk and whey and ice cream mix.

Cooking and Other Edible Fats and Oils

The following figures show the trends in the industry since 1929:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1929	40	2,996	$3,381	$154,553	1.3%
1935	48	4,845	4,409	212,689	2.2
1939	56	4,672	5,397	186,252	1.8

This industry in 1939 ranked fifteenth in importance out of 41 food industries. Its products in that year were $186,252,000 or 1.8 per cent of all food products. Data are not available before 1929 hence no indications of trend are available from the data given above. The industry in 1939 reported 56 establishments, a gain of 40 per cent since 1929. The number of wage earners and wages paid showed a substantial increase from 1929 to 1939.

The industry includes establishments engaged primarily in the manufacture of edible vegetable and compound shortenings, vegetable cooking oils, salad oils, and other refined table oils by further processing animal and vegetable oils produced in other industries. It does not includes establishments primarily producing oleomargarine, corn oil, cottonseed, linseed, soybean, marine, and other animal and vegetable oils.

Corn Sirup, Corn Sugar, Corn Oil, and Starch

The following figures show the trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	56	7,795	$11,962	$186,256	1.5%
1925	30	6,492	9,378	132,898	1.3
1929	35	6,730	9,872	165,984	1.4
1935	36	7,337	8,436	103,632	1.1
1939	35	6,764	10,586	119,408	1.1

This industry ranked twenty-second in importance in 1939 out of 41 food industries. In that year its value of products was $119,408,000 or 1.1 per cent of all food products. Its share of total food products has tended to decline from 1919 to 1939. In the former year its share was 1.5 per cent as contrasted to 1.1 per cent in both 1935 and 1939. The number of plants has been stable since 1929 at about 35 as contrasted with 56 at the close of the First World War. The number of wage earners has fluctuated between 6700 and 7300 in recent years.

The industry includes establishments engaged primarily in the manufacture of sirup, sugar oil, and starch from corn, potato, root, wheat, and other starches.

Creamery Butter

The following figures show the trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	3,738	17,641	$18,853	$583,163	4.6%
1925	3,493	17,758	22,263	683,593	6.6
1929	3,527	19,097	24,198	746,418	6.4
1935	3,458	18,434	17,516	501,216	5.3
1939	3,506	17,953	18,379	492,291	4.6

This industry in 1939 ranked sixth in importance out of 41 leading food industries. In that year it turned out $494,291,000 in products or 4.6 per cent of all food products. From 1925 to 1939 a rather distinct downward trend in relative importance is indicated. During that 14-year period its share of total food products declined from 6.6 to 4.6 per cent. The industry has many establishments which have shown a marked stability in number over a twenty-year period. Since 1925 the number has held close to 3500. The average establishment is small scale with about five or six wage earners per plant. The number of wage earners appears to have stabilized at about 18,000 over a considerable period.

The industry includes establishments engaged primarily in the manufacture of creamery butter. It includes separating stations operated on the premises of butter factories, but does not include milk and cream purchasing stations or butter production on farms or processed butter.

Custom Slaughtering, Wholesale

The following figures are for the industry in 1937 and 1939:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1937	24	560	$664	$1,810	0.02%
1939	40	640	$689	1,933	0.02

This industry in 1939 ranked last in importance out of the 41 leading food industries. Its products in that year were $1,933,000 or 0.02 per cent of all food products. There were only 40 establishments in that year which employed 640 wage earners. Payrolls were $689,000. No data prior to 1937 are available.

The industry includes establishments primarily engaged in the slaughtering of cattle, hogs, sheep and other animals on a contract basis as a service to others. Hides and other byproducts may be retained in partial payment for this service and may therefore be reported as the principal product of such establishments.

Flavoring Extracts and Flavoring Sirups, not Elsewhere Classified

The following figures show the trends in the industry since 1935:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1935	407	2,902	$2,651	$ 67,875	0.7%
1939	477	3,589	3,764	139,902	1.3

This industry during 1939 turned out $139,902,000 in products which made it the seventeenth industry in importance out of 41 food industries. Its share of the total food products in that year was 1.3 per cent. There were 477 establishments in 1939 employing 3,589 wage earners or about 7 per plant. There are no data prior to 1935.

The industry includes establishments primarily engaged in the manufacture of flavoring extracts, sirups, and fruit juices for soda fountain use or for the manufacture of soft drinks and colors for bakers' and confectioners' use.

Flour and Other Grain Mill Products

The following figures show the trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	10,708	45,481	$50,888	$2,052,434	16.1%
1925	4,413	31,988	39,700	1,298,015	12.5
1929	4,022	27,028	35,072	1,060,269	9.1
1935	2,193	26,495	27,105	853,219	8.9
1939	2,143	24,771	28,370	649,943	6.1

The industry in 1939 was fourth in importance among the 41 food industries. In that year it reported products valued at $649,943,000 or 6.1 per cent of all food products. The industry has shown a steady decline in relative importance since 1919, when it reported 16.1 per cent of all food products and was the second largest food industry. The decline in relative importance has been steady over the 20-year period. The value of products has also shown an absolute decline, falling from $2,050,000,000 in 1919 to $650,000,000 in 1939. Similarly, there has been a decline in the number of establishments from 10,703 to only 2,143 over the 20 years. Employment showed a similar decline dropping from roughly 45,000 to 25,000 from 1919 to 1939.

This industry includes establishments engaged primarily in the milling of grains except rice. The chief products of the industry are flour and meal. Such flour and grain mills may produce cracked grain used as cereal or stock feed, or blended and prepared flours, principally from products ground in the same establishments.

Food Products Not Elsewhere Classified

The following figures are for the industry in 1939:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1939	1007	13,120	$11,181	$172,459	1.6%

This group includes food products not classified under the 41 other food industries discussed elsewhere in this report. The group in 1939 reported $172,459,000 in products or 1.6 per cent of all food products. No comparable data are available for back years since the industries included in the classification have changed considerably in recent census years.

Ice Cream and Ices

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	3,475	19,155	$21,699	$189,483	1.5%
1925	2,790	23,043	33,457	286,176	2.7
1929	3,150	22,399	33,803	328,414	2.8
1935	2,447	17,321	19,104	209,685	2.2
1939	2,734	15,711	17,344	285,807	2.7

This industry in 1939 ranked eleventh out of 41 food industries in relative importance. Products in that year totaled $285,807,000 or 2.7 per cent of all food products. No clear trend in the relative importance of the industry can be found. The number of establishments in 1939 was 2734 or about the same number reported 14 years before. The number of wage earners has shown a downward trend from 1925 to 1939.

The industry includes all establishments engaged primarily in the manufacture of frozen desserts made of milk, cream, fruit juices, and flavoring extracts.

Ice, Manufactured

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	2,867	30,247	$34,002	$137,005	1.1%
1925	3,077	24,915	35,046	186,969	1.8
1929	4,110	32,184	42,399	210,952	1.8
1935	3,850	19,032	20,635	128,385	1.3
1939	3,975	15,912	17,692	130,166	1.2

The industry in 1939 ranked twentieth in importance out of 41 food industries. In that year its value of products totaled $130,166,000 or 1.2 per cent of all food and kindred products. The industry has shown a downward trend for some time as the sale of mechanical refrigerators expanded. In both 1925 and 1929 the industry reported 1.8 per cent of all food and kindred products. This fell to about 1.2 per cent in both 1935 and 1939. The number of establishments has remained fairly stable at 4000 since 1929 but there has been a sharp reduction in number of wage earners, which fell from 32,000 in 1929 to exactly half of that by 1939. Wages paid showed a similar reduction.

This industry includes establishments engaged primarily in the manufacture of ice for sale. The harvesting and storage of natural ice are not included in the manufacturing industries.

Liquors, Distilled

The following figures show trends in the industry:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1914	290	4,170	$2,451	$ 41,000	0.9%
1935	131	8,152	8,361	152,875	1.6
1939	135	4,091	4,885	56,080	0.5

Since there was no legal distillation of liquor from 1919 to 1933, only two recent census years are given. In 1939 the industry produced $56,080,000 in products or 0.5 per cent of all food and kindred products. This made it the twenty-ninth most important industry out of 41 food industries. There were 135 establishments in that year employing 4,091 wage earners. The number of wage earners, the amount of wages paid and the value of products was much lower in 1939 than in 1935 when the industry was getting started after a long period of prohibition.

The distilled liquor industry has shown an interesting trend since prohibition ended. In 1933 the value of products was low as production got under way. Then in 1935 it rose sharply to $153,000,000, then tapered off to $113,000,000 in 1937 as stocks accumulated, then fell again sharply to only $56,000,000 in 1939.

The industry includes establishments engaged in the production of distilled liquors. This industry does not include rectifying and blending establishments nor establishments engaged solely in bottling purchased liquors.

Liquors, Rectified and Blended

The following figures show trends in the industry since 1935:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1935	260	5,883	$4,527	$99,130	1.0%
1939	148	2,818	3,216	49,144	0.5

This industry in 1939 was the thirtieth industry in importance in food and kindred product manufacturing. In that year it turned out $49,144,000 in value of products or 0.5 per cent of all food and kindred products. Since there were no liquors legally manufactured from 1919 to 1933 only two census years are given in this report. There were 148 establishments reported in 1939 against 260 four years before. The number of wage earners, the amount of wages paid and the value of products were all sharply lower in 1939 than they were in 1935.

The industry includes establishments primarily engaged in the rectifying and blending of distilled liquors and making of cordials and alcoholic cocktails by mixing liquors and other ingredients. Rectifying plants operated by distillers are treated as separate establishments and are covered in this classification.

Macaroni, Spaghetti, Vermicelli, and Noodles

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	557	4,543	$4,168	$37,057	0.3%
1925	327	4,560	5,026	43,489	0.4
1929	353	5,072	5,384	47,074	0.4
1935	336	6,005	5,306	47,599	0.5
1939	328	6,013	5,383	46,153	0.4

The industry in 1939 was thirty-second in importance out of 41 food industries. In that year it turned out $46,153,000 in products or 0.4 per cent of all food products. The share of all food products reported by the industry has been quite stable from 1925 to 1939. The volume of production has also shown much the same stability. The number of establishments from 1925 to 1939 remained within narrow limits ranging from about 330 to 350. Employment has shown a rise, however, and in both 1935 and 1939 was about 6000 as against only 5000 in 1929 and 4500 in the two earlier years indicated.

This industry includes establishments engaged primarily in the manufacture of macaroni, spaghetti, vermicelli, noodles, and related products.

Malt

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	55	1,352	$1,845	$39,340	0.3%
1925	23	568	903	24,069	0.2
1929	28	590	1,057	23,603	0.2
1935	54	1,439	2,348	75,118	0.8
1939	52	1,459	2,593	58,479	0.6

This industry in 1939 was the twenty-seventh most important food and kindred product industry. Its value of products in that year was $58,479,000 or 0.6 per cent of all food products. The industry reported only 52 establishments in that year with a total employment of 1,459. During the period of prohibition, of course, the product-

ion of this industry was much curtailed and amounted to about 0.2 per cent of all food industry production. In 1935 the ratio jumped to 0.8 per cent which fell to 0.6 per cent in 1939. The number of establishments about doubled with the end of prohibition and the number of wage earners almost tripled. The industry is more important today than in 1914. The figures given in the table are not quite comparable from 1935 on, as compared with earlier years, since the 1935 census for the first time classifies malt houses operated by breweries in the malt industry and reported separately from breweries.

The industry includes establishments primarily engaged in the manufacture of malt, chiefly from barley and to some extent from other grain. Malt houses operated by breweries and reported separately are included in this industry.

Malt Liquors

The following figures show trends in the industry since 1914:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1914	1204	62,026	$53,344	$380,000	7.8%
1933	525	23,501	33,480	229,961	3.5
1935	666	39,169	60,615	420,030	4.4
1937	653	47,037	79,275	537,105	4.8
1939	605	36,088	62,231	526,077	5.0

This industry in 1939 was the fifth most important food and kindred products industry in the country, accounting for 5.0 per cent of all products in that industry. Its value of products in that year was $526,077,000, which was exceeded only by wholesale meat packing; bread and bakery products; condensed and evaporated milk; and flour and other grain mill products. The industry has shown a sharp increase in importance since 1933 when it revived after prohibition. Its share increased in each census period from 1933 to 1939. Its production shows a marked contrast with that of distilled liquors which expanded rapidly in 1935 then fell in 1937 and 1939. The industry is relatively much less important now than it was in 1914.

The total number of establishments was 605 in 1939 or slightly under the number reported in 1935 and 1937 but only half the 1914 figure. Employment in 1939 was 36,000 against 47,000 in 1937 and 39,000 in 1935. In 1914 the brewing industry employed over 62,000 workers.

The industry includes establishments primarily engaged in the manufacture of all kinds of malt liquors, such as ale, beer, porter, stout, and of malt extract. This industry does not include bottlers of malt liquor brewed by others.

Meat Packing, Wholesale

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	1,304	160,996	$209,490	$4,246,291	33.3%
1925	1,269	120,422	159,355	3,050,286	29.3
1929	1,277	122,505	165,867	3,434,654	29.5
1935	1,223	116,620	136,468	2,362,369	24.8
1939	1,478	119,853	161,524	2,648,326	24.9

The wholesale meat packing industry is the largest of all the food industries. In 1939 it produced $2,648,326,000 in value of products or 25 per cent of all food products made. Its share of the food industry has been declining over a long period. In 1919 for example the industry reported 33 per cent of all food products. This dropped to about 29 per cent in 1925 and 1929 and then to 25 per cent in 1935 and 1939. The industry reported 1,478 establishments in 1939, a somewhat higher figure than reported in either 1919, 1925, 1929 or 1935. The number of plants however was quite stable from 1925 to 1935. The number of wage earners was 161,000 in 1919 but this level dropped to about 120,000 where it has remained since 1925.

The industry includes eatablishments engaged primarily in the slaughtering of live stock for their own account to be sold fresh or used as material in canning, curing, making sausage, lard and other products, also establishments which do no slaughtering but purchase meats from others and use as material for canning, curing, etc. The manufacture of sausages and meat specialities from pruchased meats is classified elsewhere.

Nonalcoholic Beverages

The following figures show trends in the industry since 1925:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1925	4,210	27,384	$36,053	$237,761	2.3%
1929	5,154	28,281	38,314	290,324	2.5
1935	3,175	16,778	17,343	159,298	1.7
1939	4,509	21,265	20,345	365,779	3.4

This is the ninth most important food and kindred products industry, based on value of products in 1939. In that year it produced $365,779,000 in products or 3.4 per cent of all food and kindred products. No data for 1919 were available for this report. It is difficult to determine the trend in relative importance of the industry. In 1939, however, its value of products and share of the total industry was greater than in either 1925, 1929 or 1935. This was somewhat higher than usual. About 2.5 per cent would seem to be the average share of products made by this industry.

There are many establishments in the industry and the number shows marked fluctuations. In 1939 the number was over 4500 against less than 3200 four years before. A drop of 2000 occured between 1929 and 1935. The number of wage earners has also shown a sharp fluctuation as the value of products rises and falls. The industry has a marked cyclical fluctuation.

The industry includes establishments primarily engaged in the manufacture of non-alcoholic beverages, whether carbonated or not, such as root beer, ginger ale, and carbonated mineral waters. The bottling of natural spring waters is not a manufacturing industry

Oleomargarine, Not Made in Meat-Packing Establishments

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	42	2,851	$3,184	$79,816	0.6%
1925	38	1,639	2,279	39,856	0.4
1929	41	1,534	2,264	46,522	0.4
1935	14	1,176	1,303	32,402	0.3
1939	18	984	1,295	34,102	0.3

This is the thirty-fourth most important food industry, based on value of products in 1939. In that year it turned out $34,102,000 in products or 0.3 per cent of all food products. A downward trend in relative importance is observed between 1919 and 1939. The number of establishments in 1939 was 18 which was less than half the number reported from 1919 to 1929. The number of wage earners has also shown a marked decline from 1919 to 1939, the same trend also being observed in wages paid. The figures above of course do not include oleomargarine manufactured in wholesale meat packing establishments. Most oleomargarine however is made outside of wholesale meat packing establishments.

The industry includes establishments engaged primarily in the manufacture of commodities known as oleomargarine, butterine, nut margarine, nut butter, etc.

Poultry Dressing and Packing

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	196	2,140	$2,045	$ 41,705	0.3%
1925	166	2,750	2,631	45,454	0.4
1929	485	7,769	7,285	130,161	1.1
1935	567	8,078	5,068	92,944	1.0
1939	756	14,506	8,645	138,318	1.3

This industry in 1939 ranked eighteenth in value of products in the food industry. In that year it produced $138,318,000 in products or 1.3 per cent of all food products. Its share of the total food industry steadily rose from 1919 to 1939, tripling in that period as the value of products showed a rather marked expansion. The number of establishments in 1939 was 756. An immense increase in the number of plants took place from 1919 to 1939, the gain being from less than 200 to over 750. A similar striking expansion took place in the number of wage earners which rose from about 2100 to 14,500. Wages paid increased similarly.

The industry includes establishments primarily engaged in the dressing, packing, and canning of poultry, rabbits, and other small game for the wholesale trade.

Prepared Feeds (including Mineral) for Animals and Fowls

The following figures show trends in the industry since 1929:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1929	750	10,223	$12,821	$402,753	3.5%
1935	942	11,606	11,068	288,662	3.0
1939	1,383	15,401	16,253	401,880	3.8

This industry in 1939 ranked seventh in importance out of 41 food industries. In that year it produced $401,880,000 in value of products or 3.8 per cent of all food and kindred products. No data were available for 1919 and 1925. Its share of the total food industry was 3 per cent or more in 1929, 1935 and 1939. During that 10 year period a very sharp rise took place in the number of establishments which rose 84 per cent and the number of wage earners which increased 51 per cent.

The industry includes establishments engaged primarily in the manufacture of prepared feeds for animals and fowls. Prepared feeds include those made from grain as a principal ingredient, and those made principally from ingredients other than grain, such as digestible tankage, meat, bone meal, fish meal, oils, lime, sugar, molasses, alfalfa, and ground oyster shells. Dry feed produced by establishments engaged in the milling of grain alone is classified under the flour and other grain-mill products industry.

Quick-Frozen Foods

The following figures show trends in the industry for 1937 and 1939:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1937	21	1,963	$1,332	$ 8,141	0.1%
1939	36	2,640	1,656	10,107	0.1

This is a new food industry with immense possibilities. No figures are available prior to 1937. In 1939 the industry produced $10,107,000 in products or 0.1 per cent of all food products. This made it the thirty-ninth food industry in size. There seems to be general agreement in the trade that the industry will show a great

expansion in value of products after the war. Only 36 establishments were reported in 1939 with a total employment of 2,640.

The industry includes establishments engaged in the quick-freezing of fruits and vegetables for ultimate delivery to the consumer in a frozen state.

Rice Cleaning and Polishing

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	86	2,113	$1,932	$90,038	0.7%
1925	63	1,926	1,098	53,498	0.5
1929	60	1,589	1,449	48,794	0.4
1935	68	2,025	1,312	44,113	0.5
1939	72	2,346	1,533	42,363	0.4

In 1939 this was the thirty-ninth food industry in value of products. In that year it produced products valued at $42,363,000 or 0.4 per cent of all food products. Its share of the total food industry has shown a slow decline since 1919, when it accounted for 0.7 per cent of all food products. The number of establishments is small, being only 72 in 1939. The number has fluctuated in the 60's or low 70's for some time. The number of wage earners reported in 1939 was 2,346 which was higher than in either 1919, 1925, 1929 or 1935. The value of products showed a downward trend in dollar value from 1919 to 1939.

The industry includes establishments engaged primarily in the cleaning and polishing of rice and in manufacturing rice flour or meal.

Salad Dressings

The following figures are for the industry in 1937 and 1939:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1937	113	2,487	$2,522	$45,901	0.4%
1939	134	2,556	2,434	48,941	0.5

This industry in 1939 was the thirty-first food industry in importance, based on value of products. In that year it turned out $48,941,000 in value of products or 0.5 per cent of all food products. No comparable figures are available for years prior to 1937. The industry had 134 establishments in 1939 and employed 2,556 wage earners.

The industry includes establishments primarily engaged in the manufacture of salad dressings.

Sausages, Sausage Casings, Prepared Meats, and Other Meat Products - Not Made in Meat Packing Establishments

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	633	3,471	$ 4,679	$ 56,610	0.4%
1925	489	4,914	7,652	82,436	0.8
1929	681	5,897	8,850	108,246	1.1
1935	808	9,164	10,089	130,095	1.4
1939	1,104	12,264	14,355	214,063	2.0

This industry in 1939 was twelfth in importance in the food industry. In that year it turned out $214,063,000 in value of products or 2.0 per cent of all food products. Its share of the total food production of the country has steadily and consistently risen since 1919 at which time it accounted for only 0.4 per cent of all food products. During that 20-year period the number of establishments has increased 74 per cent and the number of wage earners risen 253 per cent. Wages paid rose 207 per cent and the value of products 278 per cent. This is a very encouraging rate of growth for a food industry in this period.

The industry includes establishments engaged primarily in the production of sausages prepared meats, and meat specialties, where no slaughtering operations are performed on the premises. Sausage or meat kitchens, operated by packing houses but not located on the same premises are included in the industry. The industry also includes establishments primarily engaged in the manufacture of sausage casings from animal, artificial, or synthetic materials. In order to get comparable figures back to 1919 both the sausage and the sausage casing industries were combined.

Special Dairy Products

The following figures are for the industry in 1937 and 1939:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1937	34	1,911	$2,017	$52,523	0.5%
1939	51	2,378	2,427	57,569	0.5

This industry in 1939 ranked 28th in size among the 41 food industries. Its value of products in that year was $57,569,000 or 0.5 per cent of all food products. No data are available prior to 1937 hence an indication of trends cannot be determined. Prior to 1937 the industry was included among the miscellaneous food industries and so was not separately identified.

The industry had 51 establishments in 1939 with a total employment of 2378 wage earners. This industry includes establishments engaged primarily in the manufacture of processed butter, processed cheese, cheese pastes and spreads, malted milk and fermented drinks.

Vinegar and Cider

The following figures show trends in the industry since 1919:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1919	720	1,981	$2,047	$24,723	0.19%
1925	161	1,243	1,232	12,233	0.12
1929	172	979	1,022	10,450	0.10
1935	125	1,037	1,002	8,518	0.10
1939	132	1,059	877	7,506	0.07

The industry in 1939 ranked fortieth in importance among the food industries. In that year it turned out $7,506,000 in value of products or 0.07 per cent of all food products. The industry has been steadily declining in relative importance as a food industry since 1919 as production fell consistently. The number of establishments was 132 in 1919 against 720 twenty years earlier. The number of wage earners fell about half in the same period and wages paid declined a still greater percentage.

This industry includes eatablishments manufacturing cider and vinegar.

Wines

The following figures are for the industry in 1914, 1935 and 1939:

Year	No. of Estab.	Wage Earners	Wages Paid (000's)	Value of Products Amount (000's)	Value of Products Per Cent of All Food Products
1914	318	2,292	$1,194	$16,618	0.3%
1935	315	2,335	2,107	36,432	0.4
1939	301	2,056	2,023	32,782	0.3

This industry in 1939 ranked thirty-sixth in importance. In that year it produced $32,782,000 in products or 0.3 per cent of all food and kindred products. No census data were available for 1919, 1925 and 1929 since wine was not legally manufactured in those years. The industry had 301 establishments in 1939 against 318 in 1914 before prohibition. Hence no great change has taken place in the number of plants over a long period. The number of wage earners was 2,023 in 1939 against 2,292 in 1914. However, in 1937 the industry reported employment totaling over 3,000.

The industry includes eatablishments engaged primarily in the production of fermented wines. It does not cover those engaged solely in fortifying wines made by others, nor those for bottling wines not of their own manufacture.

TRENDS IN LEADING FOOD MANUFACTURING STATES

For the purpose of this survey a comparison has been made of the eight leading food manufacturing states. These states and the total value of products in the food industry in 1939 were as follows:

Table 2

VALUE OF FOOD PRODUCTS IN EIGHT LEADING STATES: 1939

Rank	State	Value of Products	Per Cent Of U. S. Total	Products Per Capita
1.	Illinois	$1,221,580,000	11.5%	$155
2.	New York	1,149,951,000	10.8	85
3.	California	897,962,000	8.5	130
4.	Pennsylvania	613,070,000	5.8	62
5.	Ohio	512,177,000	4.8	74
6.	Minnesota	473,559,000	4.5	170
7.	Iowa	460,830,000	4.3	182
8.	Wisconsin	448,069,000	4.2	143

Altogether these 8 states account for 54.4 per cent of all food products manufactured in the country in that year. Food manufacturing is more concentrated than is population. These 8 states reported only 40.7 per cent of all of the population of the country in 1939, but produced, as indicated, 54.4 per cent of the food products.

The per capita value of products in 1939 varied considerably in the various states, ranging from as low as $62 in thickly populated industrial Pennsylvania to as high as $182 in agricultural Iowa. Since food industries tend to be attracted to states with highly developed agricultural sections this range is to be expected. Per capita value of products for the whole country in 1939 was $81.

It is impossible to find from Census of Manufactures data the total food production of each state for all back census periods. The reason for this is that production data are given only for leading states and many less important states are consolidated. The writers of this bulletin were able to trace from 1919 to 1939 only ten food industries for each of the eight leading states. This was about one-fourth of the leading food industries in number but they account for 66 per cent of all food products.

In order to trace the trends in food manufacturing by states, therefore, it has been necessary to take a sample of only 10 leading food industries out of over 40 listed in the Census of Manufactures. No other industries had complete state data running back to 1919.

In Table 3 there is shown the value of products for 10 leading food industries for the eight leading states from 1919 to 1939, using the dollar value of products. It will be observed that Illinois is the unquestioned leader for the twenty-year period. The superiority of that state is due principally to the wholesale meat packing industry in Chicago. The state produces about one-fifth of all wholesale meat products.

In New York, the second most important food manufacturing state, the chief food industry is bread and other bakery products, which is also true of Pennsylvania. In California the chief food industry is canning and preserving. In the other four states, Minnesota, Ohio, Iowa and Wisconsin, meat packing is the chief industry, as was the case in Illinois. This is to be expected in that the meat industry is the greatest food industry in the nation, accounting for one-fourth of all food products in 1939.

A better indication of the relative importance of trends in leading food manufacturing states is shown in Table 4. This table shows the percentage of 10 leading foods made in the important food manufacturing states since 1919. A careful examination of these ratios will indicate the trend of production in each state.

Over the period of twenty years from 1919 to 1939 the leading states accounted for the following percentages of food products in 10 leading food industries:

Illinois	13.2%
New York	10.6
California	7.0
Minnesota	6.2
Pennsylvania	5.8
Ohio	5.0
Wisconsin	4.5
Iowa	4.4

Of the 8 leading states California has shown the greatest relative gain over the period 1919 to 1939. The state has shown a great industrial expansion in that period and has become the outstanding producer in canning and preserving. In 1939 it accounted for 28 per cent of all products made by this industry.

Table 3

PRODUCTION OF TEN IMPORTANT FOOD PRODUCTS MADE IN
EIGHT LEADING FOOD MANUFACTURING STATES[1]

1919 to 1939
(Thousands of dollars)

Year	Illinois	New York	Calif.	Penna.	Minn.	Ohio	Iowa	Wisc.
1919	$1,672,840	$951,459	$512,991	$483,049	$657,900	$465,249	$349,330	$391,375
1921	802,149	718,440	373,643	418,002	453,973	324,251	218,059	286,083
1923	940,693	774,745	474,882	444,599	441,753	347,899	275,670	368,717
1925	1,045,631	870,128	519,266	470,031	565,893	389,295	351,399	370,067
1927	1,032,741	871,689	537,756	510,901	539,076	388,004	357,061	402,679
1929	1,170,956	901,813	617,667	487,940	544,806	431,056	402,250	396,117
1931	758,525	699,978	431,330	371,047	345,923	310,131	284,276	257,291
1933	558,400	525,868	363,853	266,374	264,227	221,634	202,243	208,507
1935	834,355	660,854	501,893	362,241	379,678	315,843	316,467	288,064
1937	985,147	728,697	612,798	421,344	450,329	479,164	346,908	325,580
1939	861,965	672,251	577,650	393,918	393,502	364,049	366,539	309,320

[1]The 10 industries include wholesale meat packing; bread and other bakery products, including biscuits, crackers and pretzels; flour and other grain mill products; candy and other confectionery; creamery butter; cheese; condensed and evaporated milk; ice cream; canning and preserving; and manufactured ice.

Source: Bureau of Census

Table 4

PRODUCTION OF TEN IMPORTANT FOOD PRODUCTS IN EIGHT
LEADING FOOD MANUFACTURING STATES[1]

1919 to 1939
Percentages of Total U. S. Production

Year	Illinois	New York	Calif.	Penna.	Minn.	Ohio	Iowa	Wisc.
1919	16.9%	9.6%	5.2%	4.9%	6.6%	4.6%	3.5%	3.9%
1921	12.7	11.4	5.9	6.6	7.2	5.1	3.5	4.5
1923	13.2	10.9	6.7	6.3	6.2	4.9	3.9	5.2
1925	12.9	10.7	6.4	5.8	7.0	4.8	4.3	4.6
1927	12.6	10.7	6.6	6.3	6.6	4.7	4.4	4.9
1929	13.3	10.2	7.0	5.5	6.2	4.9	4.6	4.5
1931	12.8	11.8	7.3	6.2	5.8	5.2	4.8	4.3
1933	12.3	11.6	8.0	5.9	5.8	4.9	4.4	4.6
1935	12.8	10.1	7.7	5.5	5.8	4.8	4.8	4.4
1937	13.0	9.6	8.1	5.6	5.9	6.3	4.6	4.3
1939.	12.3	9.6	8.2	5.6	5.6	5.3	5.2	4.4
Average	13.2	10.6	7.0	5.8	6.2	5.0	4.4	4.5

[1]The 10 industries include wholesale meat packing; bread and other bakery products, including biscuits, crackers and pretzels; flour and other grain mill products; candy and other confectionery; creamery butter; cheese; condensed and evaporated milk; ice cream; canning and preserving; and manufactured ice.

Source: Table 3

TRENDS IN FOOD MANUFACTURING IN PENNSYLVANIA

Pennsylvania in 1939 produced $613,070,000 in food products, or 5.8 per cent of all food products in the country in that year. That made it the fourth most important manufacturing state in this industry in the country, being exceeded by Illinois, New York and California, in that order. In 1939 there were 3,568 food manufacturing establishments in the state, employing about 61,500 wage earners.

Table 5 shows the value of products in all leading food industries in the state for 1939 and the percentage of each product made in the state. Pennsylvania produces in various food industries, all the way from 21.9 per cent for rectified and blended liquors down to 0.7 per cent for creamery butter.

The five most important food industries in the state in 1939 were as follows:

Rank	Name of Industry	Value of Products	Per Cent Of U. S. Total
1.	Bread and other bakery products	$141,975,000	10.2%
2.	Meat packing, wholesale	101,013,000	3.8
3.	Cane sugar refining	59,941,000	15.4
4.	Malt liquors	55,849,000	10.6
5.	Ice cream	39,530,000	13.8

Of these five important industries in 1939 Pennsylvania ranked first in the country in ice cream, second in malt liquors and bread and other bakery products, third in sugar refining and considerably down the list in meat packing.

Table 6 shows the trend in production of ten leading food industries in the state from 1919 to 1939. The reason that a larger list was not used in this table was that data on other industries were not available for the 20-year period. These 10 industries in 1939 accounted for 64 per cent of all food products in the state, hence give a good indication of trends for the entire food industry.

It will be observed from the table that the 10 industries have reported value of products over the twenty years from as high as $510,000,000 in 1927 to as low as $266,000,000 in 1933. There are no census data for a year later than 1939. During the war, of course, these totals have shown much expansion.

A somewhat different indication of production trends in the state is shown in Table 7 which gives the ratio of value of products for each of the 10 industries made in the state to the national total. An examination of this table will indicate those food industries which are showing an expansion in relative importance in the state, those which are retaining a stable share of national production and those which are declining in relative importance.

Within the narrow limits of this bulletin the authors have been unable to analyze the very complex set of conditions which determine the trends of food manufacturing either within the state or for the country as a whole.

The production of food products in the state is rather concentrated with five counties accounting for 71 per cent of all food and kindred products. The share of these counties in 1938 for all food and kindred products was as follows:[1]

	County	Amount	Per Cent of State Total
1.	Philadelphia	$261,215,000	38.1%
2.	Allegheny	135,458,000	19.8
3.	Dauphin	49,355,000	7.2
4.	Luzerne	21,553,000	3.1
5.	Lancaster	18,964,000	2.8

[1]Department of Internal Affairs, Pennsylvania, Productive Industries, 1938 Report

Table 5

FOOD AND KINDRED PRODUCTS INDUSTRIES IN PENNSYLVANIA: 1939

Name of Industry	No. of Estab.	Wage Earners	Wages (000's)	Value of Products Amount (000's)	Per Cent of U. S.
Biscuits, crackers, pretzels	83	3,324	$ 3,140	$ 18,836	9.4%
Bread & other bakery products	1,515	21,757	27,570	123,140	10.2
Candy & other confectionery prod.	125	6,016	5,078	33,858	11.4
Cane sugar refining	3	2,016	2,554	59,941	15.4
Canned & preserved fruits & vegetables	64	3,691	3,025	32,836	4.7
Cheese	29	144	141	2,402	2.2
Chewing gum	3	242	232	3,376	5.6
Condensed and evap. milk	32	382	403	7,031	3.4
Creamery butter	52	138	149	3,616	0.7
Cured fish	5	62	52	820	5.3
Flavoring extracts & sirups	22	120	133	4,199	3.0
Flour & other grain mill products	219	730	721	12,430	1.9
Food preparations not elsewhere classif.	68	786	627	7,213	4.2
Ice cream and ices	239	1,981	2,417	39,530	13.8
Ice, manufactured	258	1,029	1,329	8,162	6.3
Liquors, distilled	10	371	471	5,208	9.3
Liquors, rectified or blended	17	567	707	10,749	21.9
Macaroni, spaghetti, etc.	20	775	582	5,217	11.3
Malt liquors	85	3,717	6,677	55,849	10.6
Meat packing, wholesale	128	5,077	6,732	101,013	3.8
Nonalcoholic beverages	314	1,343	1,379	21,445	5.9
Pickled fruits & vegetables, etc.	22	862	748	6,313	8.7
Poultry dressing & packing, wholesale	11	348	241	2,727	2.0
Prepared feeds	133	860	878	18,475	4.6
Salad dressings	7	88	75	755	1.5
Sausages & prepared meats	73	1,072	1,237	23,898	11.2
Vinegar & cider	4	27	35	194	2.6
All other food industries	27	4,061	4,348	59,571	....
Total	3,568	61,496	$71,708	$668,804	5.8%

Source: Bureau of Census

Table 6

PRODUCTION OF TEN IMPORTANT FOOD PRODUCTS MADE IN PENNSYLVANIA: 1919 TO 1939
(thousands of dollars)

Food Products	1919	1921	1923	1925	1927	1929
Bread and other bakery products	$132,881	$131,412	$131,745	$150,816	$164,863	$170,609
Candy and other confectionery	41,399	71,175*	36,256	36,863	40,814	41,656
Canning and preserving	29,489	25,672	33,311	35,966	34,917	43,826
Creamery butter	9,718	10,440	15,510	5,805	6,103	5,676
Cheese	3,818	2,428	2,504	2,803	2,509	1,119
Condensed and evaporated milk	31,029	13,626	17,568	11,805	10,632	7,888
Flour and other grain mill products	69,446	39,765	28,946	33,196	30,661	21,594
Ice cream	29,721	*	44,547	48,740	45,259	47,011
Ice, manufactured	12,686	14,133	13,735	15,690	13,670	15,778
Meat packing, wholesale	122,862	109,351	120,477	128,347	131,473	132,783
Total - 10 industries	$483,049	$418,002	$444,599	$470,031	$510,901	$487,940

Food Products	1931	1933	1935	1937	1939
B read and other bakery products	$136,180	$101,345	$129,066	$149,544	$141,975
Candy and other confectionery	31,058	22,266	26,876	33,543	33,859
Canning and preserving	33,959	26,554	41,454	49,589	43,900
Creamery butter	3,306	3,147	5,304	4,812	3,616
Cheese	1,814	830	1,319	1,759	2,402
Condensed and evaporated milk	5,375	4,524	5,293	10,130	7,031
Flour and other grain mill products	11,111	11,784	15,534	15,411	12,430
Ice cream	39,855	22,577	28,797	39,328	39,530
Ice, manufactured	14,382	9,638	8,139	8,850	8,162
Meat packing, wholesale	94,007	63,709	100,454	108,378	101,013
Total - 10 industries	$371,047	$266,374	$362,241	$421,344	$393,918

Source: Bureau of Census

*In 1921 candy and other confectionery and ice cream were combined into one group.

Table 7

PRODUCTION OF TEN IMPORTANT FOOD PRODUCTS MADE IN PENNSYLVANIA: 1919 TO 1939

Percentages of total national production made in the state

Food Products	1919	1921	1923	1925	1927	1929	1931	1933	1935	1937	1939
Bread and other bakery products	11.5	12.1	11.7	11.9	11.8	11.2	11.4	11.0	10.5	10.5	10.1
Candy and other confectionery	9.2	*	9.9	9.7	10.4	10.6	10.9	10.5	10.3	11.0	11.4
Canning and preserving	4.7	6.3	5.8	5.2	5.5	5.3	6.1	5.5	5.8	5.7	5.6
Creamery butter	1.7	2.2	2.4	0.9	1.0	0.8	0.7	0.8	1.1	0.8	0.7
Cheese	2.7	3.0	1.9	2.4	2.1	1.0	2.7	1.4	1.3	1.6	2.2
Condensed and evaporated milk	9.1	7.7	8.8	6.8	5.3	3.6	3.6	3.5	3.1	4.8	3.4
Flour and other grain mill products	3.4	3.4	2.8	2.6	2.7	2.0	1.9	2.1	1.8	1.8	1.9
Ice cream	15.7	*	17.1	16.3	15.0	14.3	14.8	14.3	13.7	13.9	13.8
Ice, manufactured	9.3	8.9	8.3	8.4	7.4	7.5	7.5	6.9	6.3	6.5	6.3
Meat packing, wholesale	2.9	5.0	4.7	4.2	4.3	3.9	4.3	4.3	4.3	3.9	3.8
Ten industries	4.9	6.6	6.3	5.8	6.3	5.5	6.2	5.9	5.5	5.6	5.6

Source: Table 6

*Separate data for candy and ice cream are not available for 1921, since both industries were combined in that year by the census bureau.

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